Watching Brief Commissioned by Black and Veatch

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Penybont WTW Watching Brief EAS Client Report 08/09

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Location and Topography

The watching brief took place on land to the north east of the existing Penybont Water Treatment Works (WTW) on the eastern side of Bryncrug, Gwynedd. It is bounded on the south western side by the fence for the existing Penybont WTW, by the B4405 on the northwest, by the Afon Fathew to the south east and pasture to the northeast.

The field was basically flat with slight undulations which do not appear to make a coherent pattern. Along the northern bank of the Afon Fathew there is an earthen bank acting as a flood defense and adjacent to the south western field boundary is a reinforced cattle pen approximately 3 x 10 m in size. This cattle pen was removed at the start of the project. Before the construction of the new water treatment works the field was under pasture.

Archaeological Background

The site of the new water treatment works at Penybont is within a landscape potentially favorable for human occupation and use. It occupies a valley floor location, in a region dominated by steep hillsides and upland pastures. It is therefore also associated with relatively rich agricultural land in an area with only limited arable potential.

Aerial photographic evidence suggests an extensive prehistoric field system less than 1 km to the NW (<u>www.coflein.gov.uk</u>) associated with the valley of the Afon Dysynni. It was therefore considered that there was a potential for similar field systems to have been present in the valley of the Afon Fathew.

A fluxgate gradiometer survey was commissioned by Black and Veatch in July 2007 which was undertaken by Engineering Archaeological Services Ltd (Brooks and Laws 2007). The results were somewhat equivocal in nature, unfortunately hindered by the quantity of modern ferrous disturbance on the site.

Planning conditions for an Archaeological Watching brief were recommended by John Griffith Roberts (Snowdonia National Park Archaeologist) which was accepted by the planning committee.

Aims of Survey

To record any archaeologically significant feature, or deposit, disturbed by the development.

SUMMARY OF RESULTS

The removal of the topsoil revealed a deposit of alluvium approximately 0.55m thick over the whole of the development site. Below this, a single archaeological feature was recorded.

Methods

The archaeological watching brief on the construction phase of Penybont Water Treatment Works took place between 10th December 2007 and 11th February 2008. Only days where the active removal of deposits were monitored and thus the watching brief took place on eleven day spread over the period of construction.

The removal of both the topsoil and the underlying alluvium was carried out using a Komatsu PC210 with a smooth faced ditching bucket. The topsoil was removed from the vast majority of the development site to a depth of approximately 300 mm, although it was also removed to the top of the alluvium in places. After the removal of the topsoil most areas were then sealed with a layer of stone chippings laid on top of semi-permeable membrane (Plate 1). This allowed for site roads and the bases for cabins to be defined without causing further disturbance of the underlying deposits.

A test pit was dug within an area defined for the location of a deep pit (Figures 2 and 4). This was 1.8 m x 4 m in size and was dug to a depth of approximately 5 m below the base of the topsoil. The area of the deep pit was later piled and the contents removed, however the use of piles made the archaeological monitoring of this deep pit impossible.

The level of the sub-soil was further reduced within the area of the building. Approximately 450-550 mm of alluvium was removed revealing the underlying river gravels in places (Figure 2).

Results:

Very little in the way of archaeological features or deposits were revealed by the construction work on the Penybont Water Treatment Works. Indeed although not collected the only artefacts noted in the watching brief were fragment of postnineteenth century AD ceramics and modern agricultural metalwork.

The removal of the topsoil (Context 1) revealed a layer of alluvium (Context 2) covering the whole of the development site. This proved to be between 450 and 550 mm thick, sealing the underlying fluvial gravels (Context 5). The alluvium contained very few stones and was presumably the result of the flooding of the river valley in times of flood (Plate 2). No artefacts were recovered from the alluvium.

The alluvium also sealed the single archaeological feature (Context 3) recorded from the site (Figure 4). This was a feature 350 mm in diameter and up to 460 mm deep (Figure 5, Plate 3). The form of the feature suggested that it was the result of a timber being driven into the underlying deposits, i.e. a pile rather than a post hole. It was filled by a clean pale grey clay (Context 4) which may be the result of natural silting below a body of still water. The date of this feature is not known. No finds were associated with this feature; however it was sealed by at least 450 mm of alluvium suggesting that it may be of some antiquity.

The contexts recorded in the watching brief are summarised in Appendix 1.

Conclusions

Very little of archaeological note was recovered from the watching brief at the Penybont WTW; however the presence of a single feature below the alluvium is suggestive. The depth of the alluvium sealing this feature may suggest it is of considerable antiquity, however the speed of alleviation and the frequency of flooding before the construction of the modern flood defences is not know.

It should also be noted that the major anomaly noted within the geophysical survey (Figure 3)is within an area where only the topsoil was removed and thus the origins of this anomaly is not certain.

References

Brooks, I.P. and Laws, K. 2007 Penybont WTW Geophysical Survey EAS Client Report 2007/11.

Acknowledgements

The watching brief was commissioned by Black and Veatch on behalf of Welsh Water. Pat Doherty monitored the site for Black and Veatch. The main contractors were Daniel Contractors Ltd with Glyn Morris serving as the Project Manager. Particular thanks are due to Alan Moseley (Daniel Contractors) and his team for their consideration on site. John Griffith Roberts, the Snowdonia Nation Park Archaeologist defined the scope of the work and monitored progress.

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Appendix 1: Summary of Contexts

Context	Relationships	Description
1	Above 2	Topsoil, mid orange/brown slightly clayey silt with a moderate humic content, particularly towards the top. There was a very thin spread of post-medieval (mostly nineteenth century and later) ceramic sherds noted within the layer together with some modern agricultural debris.
2	Below 1 Above 3	An orange/brown clayey silt varying in depth between 450 and 550 mm. Occasional lenses of gravelly material, however the majority of this layer contained very few, small (up to 50 mm) sub-angular stones (mainly slate). The layer tends to become deeper toward the Afon Fathew [Natural alluvium].
3	Below 2 Within 4	A very clean, pale grey, clay filling Context 4. The fill was very soft with no other, visible, inclusions.
4	Below 2 Contains 3 Cuts 5	Located at SH 61464672 03140047. This feature was 350 mm in diameter and up to 460 mm deep. It consisted of a tapering hole with a circular plan and a pointed base. [The form of this feature would suggest it was the result of a pile (driven post) rather than a cut post- hole.]
5	Below 2 Cut by 4	River gravel. A very variable layer forming the base of the excavated area. Discontinuous bands and blocks of orange/ brown and pale gray gravels together with areas of iron staining. Some of the bands are interleaved with bands of orange/brown alluvium. [Probably the result of an active river system with some braiding of the river course.]



Watching Brief

Figure 1: Penybont WTW, Location Reproduced from Outdoor Leisure 23, 1:25,000 scale by the permission of Ordnance Survey on behalf of The Controller of Her Majesty's Stationary Office. Crown Copyright 1998. All rights reserved. Licence number AL 100014722



Area of removal of topsoil Area of removal of alluvium Deep pit

> Figure 2: Summary of the Level of Disturbance Scale 1:500







Figure 5: Section Through the Feature Scale 1:10



Plate 1: Panorama of the site during construction



Plate 2: General section through the alluvium



Plate 3: Feature 4